

### Barriers for energy Efficiency

**Title:**

Plant sees only the first cost rather than life cycle cost while making the fresh purchase

**Category:**

On the fly adjustment of technologies and equipment

**Industry equipment:**

Motor

**Summary:**

It is evident that in many of the plants, though plant personnel are aware about energy efficient motors they prefer the standard motors. This is basically due to very poor awareness about the life cycle cost of the equipment.

**Back ground:**

In many industries whenever they want to purchase a pump they make the comparison of the first cost of the equipment though they are aware about the energy efficient motors availability in the market.

Life cycle cost is worked for a simple case to explain how plants are loosing more money by spending more power consumption.

#### Comparison of life cycle cost

Power	Unit	Standard motor	Energy efficient motor
Input power to drive	kW	9	9
Efficiency	%	86	90
Input power to motor	kW	10.47	10
Initial investment	Rs	18000	23400
Annual operating hours	No	7000	7000
Annual energy consumption	kWh	73256	70000
Annual energy cost	Rs. Lakh	2.93	2.80
Life of the motor	year	10	10
Total life time energy cost	Rs. Lakh	29.30	28
Total life cycle cost	Rs. Lakh	29.48	28.23
First cost to total life cycle cost	%	0.61	0.83
<b>Extra energy spend in total life</b>	<b>kWh</b>	<b>32558</b>	
<b>Extra money spend in total life</b>	<b>Rs. Lakh</b>	<b>1.30</b>	

It can be seen that the first cost play negligible role when compared to the life cost of the equipment in this case. The standard motor incurred about Rs. 1.30 lakh more in the lifetime of the motor which above 7 times more than the first cost.

It also proves that the maintenance and failure of energy efficient motors is less when compared to standard motors.

**Message learnt:**

High importance should be given to life cycle cost of the equipment by considering energy, maintenance, depreciation and other costs.